Title (en)

ELECTROGAS ARC WELDING METHOD AND ELECTROGAS ARC WELDING APPARATUS

Title (de)

ELEKTROGAS-LICHTBOGENSCHWEISSVERFAHREN UND ELEKTROGAS-LICHTBOGENSCHWEISSVORRICHTUNG

Title (fr)

PROCÉDÉ ET APPAREIL DE SOUDAGE À L'ARC ÉLECTROGAZ

Publication

EP 3173176 A4 20180502 (EN)

Application

EP 15825056 A 20150721

Priority

- JP 2014152266 A 20140725
- JP 2015070680 W 20150721

Abstract (en)

[origin: EP3173176A1] Provided are an electrogas arc welding method and an electrogas arc welding apparatus that can efficiently discharge slag. A welding wire 5 in use is a flux-cored wire that has a flux filled in a steel outer sheath, and has the composition that contains C, Si, Mn, Mo, Ti, and SiO 2 in specific amounts, and Al, S, P, TiO 2 , and Al 2 O 3 in limited specific amounts or less, with the balance being Fe and inevitable impurities while satisfying the equation (A) below. The sliding copper shoe 2 has a trench at its surface in contact with a groove, the trench having a curvature. When a is a width of the groove, a trench width W is in a range of (1.1 × a) to (2.5 × a) mm; the trench depth D is in a range of 0.5 to 5.5 mm; and a ratio (W/D) of the trench width W to the trench depth D is in a range of 5. 0 to 80.0. An electrogas arc welding is performed with a feed speed of the welding wire 5 set constant by controlling a speed of raising a welding torch 4 based on welding current such that a protruding length of the welding wire 5 is set constant. 1.0 #¤ SiO 2 + 2.1 × Si / Al 2 O 3 + 1.9 × Al + TiO 2 + 1.7 × Ti

IPC 8 full level

B23K 9/173 (2006.01); **B23K 37/06** (2006.01)

CPC (source: EP KR RU)

B23K 9/0352 (2013.01 - EP KR); **B23K 9/095** (2013.01 - KR); **B23K 9/173** (2013.01 - EP KR RU); **B23K 35/0266** (2013.01 - KR); **B23K 35/3053** (2013.01 - KR); **B23K 37/0276** (2013.01 - EP); **B23K 37/0282** (2013.01 - EP); **B23K 37/06** (2013.01 - EP RU)

Citation (search report)

- [XA] JP H1029091 A 19980203 - SUMITOMO HEAVY INDUSTRIES, et al
- [A] JP S58138572 A 19830817 - MITSUBISHI HEAVY IND LTD
- See also references of WO 2016013542A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

EP 3173176 A1 20170531; **EP 3173176 A4 20180502**; BR 112017001213 A2 20171128; CN 106536114 A 20170322; CN 106536114 B 20190628; JP 2016030262 A 20160307; JP 6190774 B2 20170830; KR 101994008 B1 20190627; KR 20170015522 A 20170208; RU 2017101994 A 20180827; RU 2017101994 A3 20180828; RU 2669668 C2 20181012; SA 517380725 B1 20201104; SG 11201700409T A 20170227; TW 201622870 A 20160701; TW I590906 B 20170711; WO 2016013542 A1 20160128

DOCDB simple family (application)

EP 15825056 A 20150721; BR 112017001213 A 20150721; CN 201580038994 A 20150721; JP 2014152266 A 20140725; JP 2015070680 W 20150721; KR 20177002034 A 20150721; RU 2017101994 A 20150721; SA 517380725 A 20170115; SG 11201700409T A 20150721; TW 104124070 A 20150724